

What is claimed is:

1. A prosthetic foot comprising:
a longitudinally extending foot keel;
a calf shank secured to the foot keel at a lower end thereof and extending upwardly from the foot keel;
wherein the lower end of the calf shank is in the form of a spiral, the calf shank extending upward anteriorly from the spiral to an upstanding upper end thereof.
2. The prosthetic foot according to claim 1, wherein the calf shank is secured to the foot keel by way of a coupling element.
3. The prosthetic foot according to claim 2, wherein a radially inner end of the spiral of the calf shank is fastened to the coupling element.
4. The prosthetic foot according to claim 3, wherein the calf shank lower end spirals around the radially inner end above the foot keel.
5. The prosthetic foot according to claim 1 wherein the coupling element includes a stop to limit dorsiflexion of the upwardly extending calf shank in gait.
6. The prosthetic foot according to claim 5, wherein said stop includes at least one wedge shaped member secured to the coupling element anterior of the calf shank.
7. The prosthetic foot according to claim 1, wherein the calf shank is secured to the posterior of the foot keel and extends upwardly above a hindfoot portion and the posterior part of a midfoot portion of the foot keel.

8. The prosthetic foot according to claim 1, further comprising a cosmetic covering in the shape of a human foot and lower leg, the cosmetic covering being located over the foot keel and at least the lower end of the calf shank with the calf shank rising upwardly from the foot keel within the lower leg covering.

9. The prosthetic foot according to claim 1, further comprising an adjustable fastening arrangement securing the calf shank to the foot keel, the fastening arrangement permitting adjustment of the relationship of the foot keel and calf shank to tune the performance of the prosthetic foot.

10. The prosthetic foot according to claim 9, wherein the adjustable fostering arrangement includes at least one releasable fastener and a longitudinally extending opening in the foot keel through which the fastener extends to permit adjustment of the alignment of the calf shank and the foot keel in the longitudinal direction of the foot keel.

11. The prosthetic foot according to claim 1, wherein the calf shank has a radius of the curvature which increases progressively as the calf shank spirals outwardly and as the calf shank extends upwardly from its lower, spiral end.

12. The prosthetic foot according to claim 1, wherein the foot keel has an upward convexly curved dorsal surface of a midfoot portion of the foot keel facing the spiral lower end of the calf shank, radii of curvature of the spiral and the convexly curved dorsal surface of the foot keel affecting a dynamic response capability and motion outcome of the prosthetic foot in gait.

13. A prosthetic foot comprising:
a longitudinally extending foot keel;
a coupling element connected to the foot keel;

a resilient, upstanding calf shank having a lower end connected to the foot keel by way of the coupling element to form an ankle joint area of the foot, and an upper end to connect with a supporting structure on an amputee's leg;

wherein the lower end of the calf shank is in the form of a spiral, the calf shank extending upwardly anteriorly from the spiral to the upper end thereof.

14. The prosthetic foot according to claim 13, wherein the coupling element includes a stop to limit dorsiflexion of the calf shank in gait.

15. The prosthetic foot according to claim 14, wherein the stop includes at least one wedge shaped member secured to the coupling element anterior of the calf shank.

16. The prosthetic foot according to claim 13, further comprising an adjustable fastening arrangement to permit adjustment of the alignment of the calf shank and the foot keel with respect to one another in the longitudinal direction of the foot keel for tuning the performance of the prosthetic foot.

17. The prosthetic foot according to claim 16, wherein the adjustable fastening arrangement includes at least one releasable fastener connecting the foot keel and the coupling element and a longitudinally extending opening in the foot keel through which the fastener extends to permit said adjustment of the alignment of the foot keel and the calf shank.

18. The prosthetic foot according to claim 13, wherein the spiral lower end of the calf shank has a radius of curvature which increases progressively as the calf shank spirals and as it extends upwardly from its spiral lower end.

19. The prosthetic foot according to claim 13, further comprising a cosmetic covering in the shape of a human foot and lower leg, the cosmetic covering being located over the foot keel and at least the lower end of the calf shank with the calf shank rising upwardly from the foot keel within the lower leg covering.

20. A calf shank for a prosthetic foot comprising:

an elongated, semi-rigid resilient member having one end in the form of a spiral for attachment to a foot keel to form an ankle joint area of the prosthetic foot, and an opposite end for connection with a supporting structure on an amputee's leg, the member extending curvilinearly with a progressively increasing radius of curvature from the spiral at the one end toward said opposite end.

21. The calf shank according to claim 20, wherein a radially inner end of the spiral at said one end of the member includes a fastener for fastening the calf shank to a coupling element for attachment to a foot keel.

22. The calf shank according to claim 21, wherein the one end of the member spirals around the radially inner end before extending toward the opposite end.

23. The calf shank according to claim 20, wherein the opposite end of the member includes an adapter secured thereto and an inverted pyramid-shaped attachment fitting mounted thereon.